

Automatic Transmissions and Transaxles 8th Edition

Chapter 12

Multiple Choice Quiz B

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. What is the primary purpose of a transmission in a vehicle with an internal combustion engine (ICE)?
  - A. To control the vehicle's speed
  - B. To keep the torque and horsepower in the ideal range relative to the engine and road speed
  - C. To improve the vehicle's fuel efficiency
  - D. To reduce the emissions of the vehicle
  
2. In a hybrid electric vehicle (HEV) transmission, what is the role of an auxiliary electric pump or hydraulic impulse storage generator?
  - A. To generate additional electric power
  - B. To store excess energy from the engine
  - C. To assist in power transmission
  - D. To maintain hydraulic pressure when the ICE is off
  
3. What distinguishes a power-split system from an eCVT in a hybrid vehicle?
  - A. The type of fuel used
  - B. The method of power distribution
  - C. The number of gears in the transmission
  - D. The type of electric motor used
  
4. How does the transmission in a fully electric vehicle typically differ from that in a traditional ICE vehicle?
  - A. It has more gears
  - B. It is larger and heavier
  - C. It often uses a single-speed gearing
  - D. It requires more frequent maintenance
  
5. What is the function of the resolver (speed sensor) in a hybrid transmission's electric motor?
  - A. To control the motor's speed
  - B. To increase the motor's efficiency
  - C. To regulate the temperature of the motor
  - D. To provide data on the motor's speed, location, and direction of rotation
  
6. What is the maximum rotation speed of the electric motor in the Chevrolet Bolt (2022 model year)?
  - A. 5,500 RPM
  - B. 8,810 RPM
  - C. 10,000 RPM
  - D. 12,000 RPM
  
7. What is the primary reason most production electric vehicles use a single-speed transmission?
  - A. Cost-effectiveness
  - B. Simplicity and reliability
  - C. Wider RPM window for efficient operation
  - D. Better acceleration

8. What is the main compromise in designing electric vehicle systems for optimum low-end acceleration instead of top speeds?

- A. Lower top speed
- B. Reduced battery life
- C. Increased vehicle weight
- D. Higher energy consumption

9. In the context of hybrid vehicles, what is the purpose of regenerative braking?

- A. To reduce brake wear
- B. To capture kinetic energy and convert it into electrical energy
- C. To improve vehicle handling
- D. To increase the vehicle's top speed

10. What type of fluid is specified for the final drive assembly in the Chevrolet Bolt?

- A. Dexron HP
- B. Dexron VI
- C. Synthetic motor oil
- D. Brake fluid

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Answer Key

1. B

2. D

3. B

4. C

5. D

6. B

7. C

8. A

9. B

10. A